

This Listing of Claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

Claims 1-12. (withdrawn).

13. (original): A magnetic recording disc for magnetic recording comprising:
a disc substrate having a locking pattern formed therein; and
nanoparticles completely filling the locking pattern and exhibiting short-range order characteristics.

14. (original): The magnetic recording disc of claim 13, wherein the nanoparticles comprise chemically synthesized nanoparticles having a grain size of 3-10 nm.

15. (original): The magnetic recording disc of claim 14, wherein the chemically synthesized nanoparticles comprise FePt, CoPt, FePd or MnAl nanoparticles.

16. (original): The magnetic recording disc of claim 13, wherein the disc substrate comprises glass, quartz, Si, SiO₂, ceramic or AlMg.

17. (original): The magnetic recording disc of claim 13, wherein the locking pattern formed in the disc substrate includes a pit depth of 5-20 nm.

18. (original): The magnetic recording disc of claim 13, wherein the nanoparticles include a self-assembly-coherence length scale of 100-1000 nm.

19. (original): The magnetic recording disc of claim 13, further comprising a protective coating layer covering the disc substrate and the nanoparticles.

Claims 20-26. (withdrawn).

27. (new): A data storage medium for magnetic recording comprising:
a substrate having a locking pattern formed therein; and
nanoparticles completely filling the locking pattern and exhibiting short-range order characteristics.

28. (new): The data storage medium of claim 27, wherein the nanoparticles comprise chemically synthesized nanoparticles having a grain size of 3-10 nm.

29. (new): The data storage medium of claim 28, wherein the chemically synthesized nanoparticles comprise FePt, CoPt, FePd or MnAl nanoparticles.

30. (new): The data storage medium of claim 27, wherein the substrate comprises glass, quartz, Si, SiO₂, ceramic or AlMg.

31. (new): The data storage medium of claim 27, wherein the locking pattern formed in the substrate includes a pit depth of 5-20 nm.

32. (new): The data storage medium of claim 27, wherein the nanoparticles include a self-assembly-coherence length scale of 100-1000 nm.